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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/603,980	06/27/2000	Dimitri Kanevsky	13317(YOR9-2000-0019US1)	4672

7590 08/13/2002

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EXAMINER	
LESPERANCE, JEAN E	
ART UNIT	PAPER NUMBER
2674	

DATE MAILED: 08/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/603,980	Applicant(s) KANEVSKY ET AL.	
	Examiner Jean E Lesperance	Art Unit 2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 June 2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 June 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Drawings

This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 7-8,10-13, 17-20 are rejected under 35 U.S.C. 102 (b) as being unpatentable over U.S. Patent # 5,767,842 ("Korth").

As for claim 1, Korth teaches a camera Fi.1 (2) corresponding to one or several cameras, a computer side of the interface there need only be a way to detect the fingertip motions of the keyboard operator (column 4, lines 27-29) corresponding to one or more memories with CPU connected to the cameras, and processes running in the CPU that associates gesture movements with typing and window may appear only during the input of data (column 4, lines 54-55) corresponding to the produce gesture associated textual output.

As for claims 2, 11, and 18-19, Korth teaches a keyboard that should provide the user with the key information and feedback. Tactile feedback of virtual keyboard is given by the contact of the finger-tip with the working plate (column 7, lines 14-17)

corresponding to a feedback is provided to the user on what kind of keys are associated with the user's gestures.

As for claims 3 and 12, Korth teaches a visualization of the actual key function allows the handling of keyboards with multiple shift keys and subgroup display for large characters sets (column 3, lines 1-4) corresponding to displaying keys on the display, a keyboard for musical instruments (column 3, line 11) corresponding to playing sound labels for keys and playing special sound indicators, a video sensor that is used for monitoring the keyboard to generate image data representing positions of an operator's hand with respect with the keys (column 3, lines 55-58) corresponding to displaying image indicators on the display, a camera Fig.1 (2) corresponding to projecting the keyboard to any surface and displaying picture of the keyboard with the user's hand.

As for claim 7, Korth teaches a method of data input using video sensors for monitoring positions of an operator's hand with respect to keys on a virtual keyboard optically produced on a surface.

As for claims 8, 13, and 20, Korth teaches a keyboard needs not to exist physically, a virtual keyboard 3 serves as data or command input device. From the computer side of the interface there need only be a way to detect the fingertip motions of the keyboard operator. The task of the keyboard is to provide information about the available keys and their location, to sense the depression of the key by the operator and to produce some feedback when a key has been touched (column 4, lines 21-29).

As for claim 10, Korth teaches the keyboard needs not to exist physically, a virtual keyboard serves as data or command input device. From the computer side of

the interface there need only be a way to detect the fingertip motions of the keyboard operator (column 4, lines 25-29) corresponding to making typing gestures without any real keyboard; a way to detect the fingertip motions of the keyboard operator (column 4, lines 28-29) corresponding to sensing the typing gestures; and a video monitor may be provided to display positions of the operator's hand with respect to the keys (column 4, lines 2-3) corresponding to producing, from the sensed typing gestures, gesture associated textual output.

As for claim 17, Korth teaches a keyboard needs not to exist physically, a virtual keyboard 3 serves as data or command input device. From the computer side of the interface there need only be a way to detect the fingertip motions of the keyboard operator (column 4, lines 25-29) corresponding to means for sensing typing gestures made without any real keyboard; and a video monitor may be provided to display positions of the operator's hand with respect to the keys (column 4, lines 2-3) corresponding to producing, from the sensed typing gestures, gesture associated textual output.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4-6, 9, 14-16, and 21-22 are rejected under 35 U.S.C. 103 (a) as being unpatentable over U.S. Patent # 5,767,842 ("Korth") in view of U.S. Patent # 6,421,453

("Kanevsky").

As for claims 4, 14-15, and 21-22, Korth teaches a video sensor that is used for monitoring the keyboard to generate image data representing positions of an operator's hand with respect with the keys (column 3, lines 55-58) corresponding to a gesture capturing module that captures gestures through camera sensors. Accordingly Korth teaches all the claimed limitations as recited in claim 4 with the exception of providing a classificator module, an associator module, and an integrator module.

However, Kanevsky et al. teach a classification that involves the differentiation of multiple individuals simultaneously attempting to interact with the system (column 1, lines 50-52); an associated body movements Fig.4 (410); method could be implemented to integrate different sources of information for improved user recognition/verification.

It would have been obvious to utilize the classificatory, the associator, and the integrator as taught by Kanevsky et al. in the optical input of commands disclosed by Korth because this would allow a method for controlling access of an individual to one of a computer.

As for claim 5, Kanevsky et al. teach a speech recognition and natural language understanding (column 11, lines 58-59) corresponding to a language module; speech 411 is an acoustic password that consists of a string of predefined intentionally produced sounds (column 14, lines 35-37) corresponding to a character frequency language; accidental units library Fig.12 (1222) corresponding to a confusable matrix; a classification that involves the differentiation of multiple individuals simultaneously

attempting to interact with the system (column 1, lines 50-52) corresponding to a gesture classes probability module; combination of predefined movements 904e may be used to detect stroke ends (column 25, lines 7-8) corresponding to a computation of a probability; pre-storing a predefined sequence of intentional gestures performed by individual during an enrollement session (abstract) corresponding to a generation of lattice; the links associated with the gesture pin are used to find corresponding pre-scored-productions (column 21, lines 60-62) corresponding to finding the more probable sequence of keys from the lattice of key candidate strings.

As for claim 6, Kanevsky et al. teach an accidental units rule 1200c that can be used to check the accidental units so that the accidental units can be either removed from the gesture sequence provided by the user or used to further verify that the intended gesture pin has been performed.

As for claim 9, Kanevsky et al. teach a gesture symbol module Fig.10 (1001).

As for claim 16, Kanevsky et al. teach a training algorithm assigns probabilities to all strings of transitions from the initial state to the final state.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean Lesperance whose telephone number is (703) 308-6413. The examiner can normally be reached on from Monday to Friday between 8:OOAM and 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on (703) 305-4709 .

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Jean Lesperance

Art unit 2674

Date 8-7-2002

RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600